CLAIMS

What is claimed is:

1.   A method of configuring access to a failed memory module, comprising:

determining a type of the error; and

5   configuring access to the memory module based on said error type.

2.   The method of claim 1, wherein configuring access comprises:

enabling access to the failed memory module when the error type is determined to be

soft; and

10   disabling access to the failed memory module when the error type is determined to be

hard.

3.   The method of claim 2, wherein configuring access further comprises:

prior to enabling access, disabling read access to the failed memory module; and

15   insuring write access is not prohibited.

4.   The method of claim 1, wherein configuring access further comprises:

logging information regarding said error; and

determining said error type based at least on said error.

20

5.   The method of claim 1, wherein configuring access further comprises:

reconstructing data that caused the failed memory module to fail; and

servicing a memory request with said reconstructed data.

25   6.   The method of claim 4, wherein configuring access further comprises:

scrubbing the failed memory module with said reconstructed data.

7.   The method of claim 1, wherein said determining said error type comprises:

determining said error type based on said error and prior errors, if any, incurred by the

30   failed memory module.

8.   The method of claim 6, wherein the error type is determined based on an error threshold.

9.   The method of claim 2, wherein enabling access comprises:
enabling access to the failed memory module when an error threshold is not exceeded.

10.   The method of claim 2, wherein disabling access comprises:
disabling access to the failed memory module when an error threshold is exceeded.

11.   The method of claim 7, wherein said error threshold comprises an error rate.

12.   The method of claim 7, wherein said error threshold comprises a quantity of errors.

13.   The method of claim 1, wherein configuring access comprises:
disabling read access to the failed memory module;
configuring access to the failed memory module based on said error type, comprising:
            continuing to disable read access to the failed memory module when the error type is determined to be hard; and
            enabling read access to the failed memory module when the error type is determined to be soft.

14.   A computer system comprising:
a memory system comprising:
            a plurality of data storage devices; and
            a memory controller that accesses said plurality of data storage devices; and
an error-type memory controller that configures said access such that said memory controller can continue to access a failed one of said plurality of data storage devices that incurred a soft error.

15.   The computer system of claim 14, wherein said data storage devices comprise memory modules.

16.   The computer system of claim 14, wherein the error-type memory controller comprises:

an error-type identifier that determines a type of error incurred by the failed data storage device, wherein the error-type is one of either a hard error and the soft error; and

5   a memory module access configurator that configures access the redundant memory controller has to the failed data storage device based on the type of memory error.

17.   The computer system of claim 16, wherein the error-type identifier determines if the error is soft based on an error threshold.

10

18.   The computer system of claim 17, wherein the error threshold comprises an error rate.

19.   The computer system of claim 17, wherein the error threshold comprises a quantity of errors that can occur in a predetermined period of time.

15

20.   A redundant memory system comprising:

redundant memory logic that accesses one of a plurality of data storage devices; and

a memory controller that independently controls read and write access to a failed one

of said plurality of data storage devices based on whether an error incurred by said failed

20   data storage device is a hard error or a soft error.

22.   The redundant memory system of claim 21, wherein said plurality of data storage devices comprise a plurality of memory modules.

23.   The redundant memory system of claim 21, wherein said memory controller is responsive to a memory error-type identifier that analyzes said error incurred by said failed data storage device, wherein said memory error-type identifier retains information regarding errors incurred in said plurality of data storage devices, and utilizes said retained information to determine whether said error is a hard error or a soft error.

24.   The redundant memory system of claim 23, wherein said error-type identifier is implemented in software.

25.   The redundant memory system of claim 17, wherein the redundant memory system comprises a RAIM (redundant array of independent memory) memory system.

26.   The redundant memory system of claim 19, wherein the memory error type identifier makes said determination based on an error threshold.

27.   The redundant memory system of claim 22, wherein said error threshold comprises an error rate.

28.   The redundant memory system of claim 22, wherein said error threshold comprises a quantity of errors that can occur in each of said plurality of data storage devices over at least one predetermined period of time.

29.   A memory system for restoring access to a memory module that incurred an error, comprising:

means for determining a type of the error; and

means for restoring access to the memory module when said type of error is determined to be a soft error.